Claims

1. In a processor system, a method of dynamically adjusting the quantity of compression performed on visual content delivered over a network to a remote client, comprising:

receiving a request for visual content from a remote client;

retrieving the visual content to a local memory,

receiving feedback regarding a change in demand for bandwidth on the network;

increasing the compression ratio of visual content in response to increasing demand for bandwidth and decreasing the compression ration of visual content in response to decreasing demand for bandwidth;

accessing the local memory to retrieve the visual content;

compressing the visual content to form a plurality of data frames that are representative of the visual content, and

outputting the plurality of data frames to the remote client .

2. The method in claim 1 wherein compressing the visual content to form a plurality of data frames that are representative of the visual content further comprises,

spatially, compressing the visual content to form a data frame that is representative of the visual content; and

duplicating the data frame to form the plurality of data frames.

3. The method in claim 2 wherein, spatially compressing the visual content further comprises,

transforming the frequencies present in the visual content into a plurality of coefficients that are representative of the frequencies present in the visual content;

omitting at least a portion of the plurality of coefficients that are representative of the higher frequencies present in the visual content; and

forming the data frame from the remaining coefficients.

4. The method in claim 1 wherein, compressing the visual content to form a plurality of data frames that are representative of the visual content further comprises,

spatially, compressing the visual content to form a data frame that is representative of the visual content; and

temporally, compressing the data frame to form the plurality of data frames.

5. The method in claim 4 wherein, spatially compressing the visual content further comprises,

transforming the frequencies present in the visual content into a plurality of coefficients that are representative of the frequencies present in the visual content;

omitting at least a portion of the plurality of coefficients that are representative of the higher frequencies present in the visual content; and

forming the data frame from the plurality of remaining coefficients.

6. The method of claim 1 wherein, compressing the visual content to form a plurality of data frames, and increasing/decreasing the compression ratio of visual content comprises,

generating a non-spatially compressed data frame of visual content,

temporally, compressing the non-spatially compressed data frame to form the plurality of data frames.

7. The method in claim 6 wherein, temporally, compressing the non-spatially compressed data frame to form the plurality of data frames comprises,

reducing the rate of outputting data frames to the remote client.

8. The method in claim 7 wherein,

the plurality of data frames comprise an MPEG2 Transport Stream.

9. The method of claim 8 wherein,

the reduced rate of data frames outputted consists of a reduction of at least one type of frame selected from the group consisting of; I-frames, B-frames, or P-frames.

10. The method in claim 1 wherein, compressing the visual content to form a plurality of data frames that are representative of the visual content further comprises,

reducing the resolution of the visual content stored to the local memory.

11. The method in claim 1 wherein, compressing the visual content to form a plurality of data frames that are representative of the visual content further comprises,

reducing the resolution of the visual content stored to the local memory;

spatially, compressing the visual content to form a data frame that is representative of the visual content; and

temporally, compressing the data frame to form the plurality of data frames.

12. The method in claim 11 wherein,

the plurality of data frames comprises an MPEG2 Transport Stream.

13. The method of claim 12 wherein,

the reduced rate of data frames outputted consists of a reduction of at least one type of frame selected from the group consisting of; I-frames, B-frames, or P-frames.

14. The method in claim 1 wherein,

the feedback regarding a change in demand from bandwidth originates externally from the processor system.

15. The method in claim 14 wherein, receiving feedback regarding a change in demand for bandwidth on the network further comprises,

communicating with a component that is coupled to a CATV programming distribution system and located at a site selected from the group consisting of; a Node, a local Headend, or a Metropolitan Headend.

16. The method of claim 1 wherein,

the feedback regarding a change in demand bandwidth originates from within the processor system.

17. The method of claim 1 wherein,

the feedback correlates to the quantity of requests for visual content received by the processor system.

18. The method of claim 1 wherein,

the plurality of data frames output to the remote client comprises an MPEG2 transport stream.

19. The method of claim 18 further comprising,

communicating a combination of a unique channel and Program Identifier to the remote client that carries the MPEG2 transport stream.

20. The method of claim 1 further comprising,

establishing an application session.

21. The method of claim 21 wherein,

the application session is selected from the group consisting of; an Internet Browser, and an Email application.

22. The method in claim 1 further comprising,

accessing a server through a switched network.

23. The method of claim 22 wherein,

the switched network comprises the Internet.

24. The method in claim 1 wherein,

the network through which the visual content is delivered comprises a broadband network.

25. The method in claim 24 wherein,

the broadband network comprises a CATV broadband network.

26. In a processor system, a method of dynamically adjusting the quantity of compression performed on motion video or audio content delivered over a network to a remote client, comprising:

receiving a request for motion video or audio content from a remote client;

receiving feedback regarding a change in demand for bandwidth on the network;

increasing the compression ratio of visual content in response to increasing demand for bandwidth and decreasing the compression ration of visual content in response to decreasing demand for bandwidth;

compressing the motion video or audio content to form a plurality of data frames that are representative of the visual content, and

outputting the plurality of data frames to the remote client .

27. The method in claim 6 wherein, compressing the non-spatially compressed data frame to form the plurality of data frames comprises,

reducing the rate of outputting data frames to the remote client.

28. The method in claim 27 wherein,

the plurality of data frames comprise an MPEG2 Transport Stream.

29. The method of claim 28 wherein,

the reduced rate of data frames outputted consists of a reduction of at least one type of frame selected from the group consisting of; I-frames, B-frames, or P-frames.

30. The method in claim 26 wherein,

the feedback regarding a change in demand from bandwidth originates externally from the processor system.

31. The method in claim 30 wherein, receiving feedback regarding a change in demand for bandwidth on the network further comprises,

communicating with a component that is coupled to a CATV programming distribution system and located at a site selected from the group consisting of; a Node, a local Headend, or a Metropolitan Headend.

32. The method of claim 26 wherein,

the feedback regarding a change in demand from bandwidth originates from within the processor system.

33. The method of claim 26 wherein,

the feedback correlates to the quantity of requests for motion video or audio content received by the processor system.

34. The method of claim 26 wherein,

the plurality of data frames output to the remote client comprise an MPEG2 transport stream.

35. The method of claim 34 further comprising,

communicating a combination of a unique channel and Program Identifier to the remote client that carries the MPEG2 transport stream.

36. The method in claim 26 further comprising,

accessing a server through a switched network.

37. The method of claim 36 wherein,

the switched network comprises the Internet.

38. The method of claim 36 wherein,

the server comprises a video-on-demand server.

39. The method in claim 26 wherein,

the network through which the visual content is delivered comprises a broadband network.

40. The method in claim 39 wherein,

the broadband network comprises a CATV broadband network.

41. A processing engine for the delivery of audio or multimedia content through a broadband network, comprising:

P arrays of M^N processing nodes, where N refers to the number of processing nodes within a processing node row or column, M refers to the number of orthogonal dimensions of the array of processing nodes, and P refers to the number of arrays of processing nodes.

42. The processing engine in claim 41 wherein,

M is at least four, N is two and P is at least one.

43. The processing engine in claim 42 wherein,

P at least two.

44. The processing engine in claim 41 wherein,

for each arrays, each of the processing nodes are orthogonally coupled to all orthogonal processing nodes in each orthogonal direction and support orthogonal communications between orthogonal processing nodes.

45. The processing engine in claim 44 wherein,

each processing node comprises at least M communication ports, at least one communication port supports orthogonal communications with the orthogonal coupled processing nodes for each orthogonal direction.

46. The processing engine in claim 44 wherein,

orthogonal communication between processing nodes comprises traversal of the physical transport layers of the orthogonal coupling between the processing nodes.

47. The processing engine of claim 46 wherein,

the physical transport layer consists of a physical media selected from the group consisting of; fiber-optics, a databus, twisted pair, or microwave wave guide.

48. The processing engine of claim 41 wherein,

each processing node comprises at least a bi-directionally coupled pair of processing units.

49. The processing engine of claim 48 wherein

each processing unit comprises a bi-directionally coupled dual-CPU within the same package.

50. The processing engine of claim 41 wherein,

at least a portion of the processing nodes further comprise a communications processing unit that is bi-directionally coupled to a switched network.

51. The processing engine of claim 41 wherein,

at least a portion of the processing nodes further comprise a communications processing.

52. The processing engine of claim 51 wherein

the communications unit is bi-directionally coupled to a switched network.

53. The processing engine of claim 52 wherein

the switched network comprises the internet.

54. The processing engine of claim 51 wherein,

the communications unit is coupled to a broadband network.

55. The processing engine of claim 54 wherein,

the broadband network comprises a Hybrid-Fiber Coaxial CATV distribution network.

56. The processing engine of claim 50 wherein,

the processing nodes further comprising a communications processing unit are positioned along a diagonal of the array of processing nodes.